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A NEW, EXTREMELY BRACHYPTEROUS SPECIES OF *ONCYLOCOTIS* FROM ZAIRE (HETEROPTERA: ENICOCEPHALIDAE)

PAVEL ŠTYS

Department of Systematic Zoology, Charles University,
Viničná 7, 128 44 Praha 2, Czechoslovakia

Abstract.—*Oncylocotis froeschneri,* new species, based on an extremely brachypterous male from Zaire is described and illustrated.

Oncylocotis Stål, 1855 (=*Dicephalus* Kirby, 1891; *Sphigmocephalus* Enderlein, 1904; *Didymocephalus* Jeannel, 1942) is the largest genus of Enicocephalinae with numerous, mostly undescribed, species occurring in the Afrotropical, Madagascan, and Oriental regions (as well as along the southern fringe of the Palearctic), New Guinea, Pacific islands, Australia, and Tasmania. The generic placement of a few species now included in this genus from Neotropical region will be settled in a monograph on American enicocephalids under preparation by P. Wygodzinsky and K. Schmidt, American Museum of Natural History, New York.

Most species of *Oncylocotis* are macropterous to submacropterous; some exhibit continuous or discontinuous pterygopolymorphism, and range from macropterous to strongly brachypterous; some are known to occur in only one stage of this continuum. Forewings of females tend to be slightly shorter, but the forewing reduction is essentially not sex-linked. However, forewing reduction is linked with many phenotypic changes in the general facies of individuals or taxa, including the following: reduced venation (some transverse veins may be missing); shorter, narrower, and posteriorly less excised posterior lobe of pronotum, and less developed sculpturation of the middle lobe; more robust head; thicker and shorter antennae; smaller the eyes and ocelli, and more transverse posterior lobe of the head; and thicker and shorter legs. In *Oncylocotis neotenicus,* the one truly micropterous species (forewings reduced to widely separated vestiges without any traces of venation and fractures, not extending beyond the metathorax, hindwings absent), known from Sumatra, even the shape of the male abdomen and genitalia is affected (Štys, 1982). This picture is further complicated by the gynaecoid characters of females: they tend to be shifted—even if the size of forewings is not affected—toward that part of the above-mentioned spectrum of character states associated with forewing reduction.

All of this complicates the taxonomy of the genus, which is in a rather unsatisfactory state. In addition to the now outdated worldwide survey of species by Jeannel (1942), there exist only the surveys of Afrotropical and Madagascan species by Villiers (1969) and Micronesian species by Usinger and Wygodzinsky (1960). However, Villiers's approach to the diagnosis of species was rather typological, and hardly any attention was paid to modifications of characters by pterygopolymorphism and sexual dimorphism.

The forewings of even the most brachypterous phena (termed "micropterous" by

Jeannel, 1942, and Villiers, 1969) of described Afrotropical species are rather long, reaching at least onto the 4th abdominal tergum, slightly overlapping and retaining distinct though reduced venation; the hindwings are shorter but well developed. However, when examining the collections of Musée Royal d'Afrique Central in Tervuren in 1966 and 1968, I noticed that the material of *Oncylocotis* identified by A. Villiers as "unidentifiable larvae" also included some extremely brachypterous adult specimens with shorter, scalelike, non-overlapping forewings, and indistinct venation. Through the kind assistance of Dr. H. M. André (Tervuren) I have been able to examine this material in detail. Some of these extremely brachypterous specimens represent new species or belong to taxa previously known in the macropterous form only; they will be dealt with in another paper. In the present one I describe one of the brachypterous forms, which undoubtedly belongs to a yet unknown species.

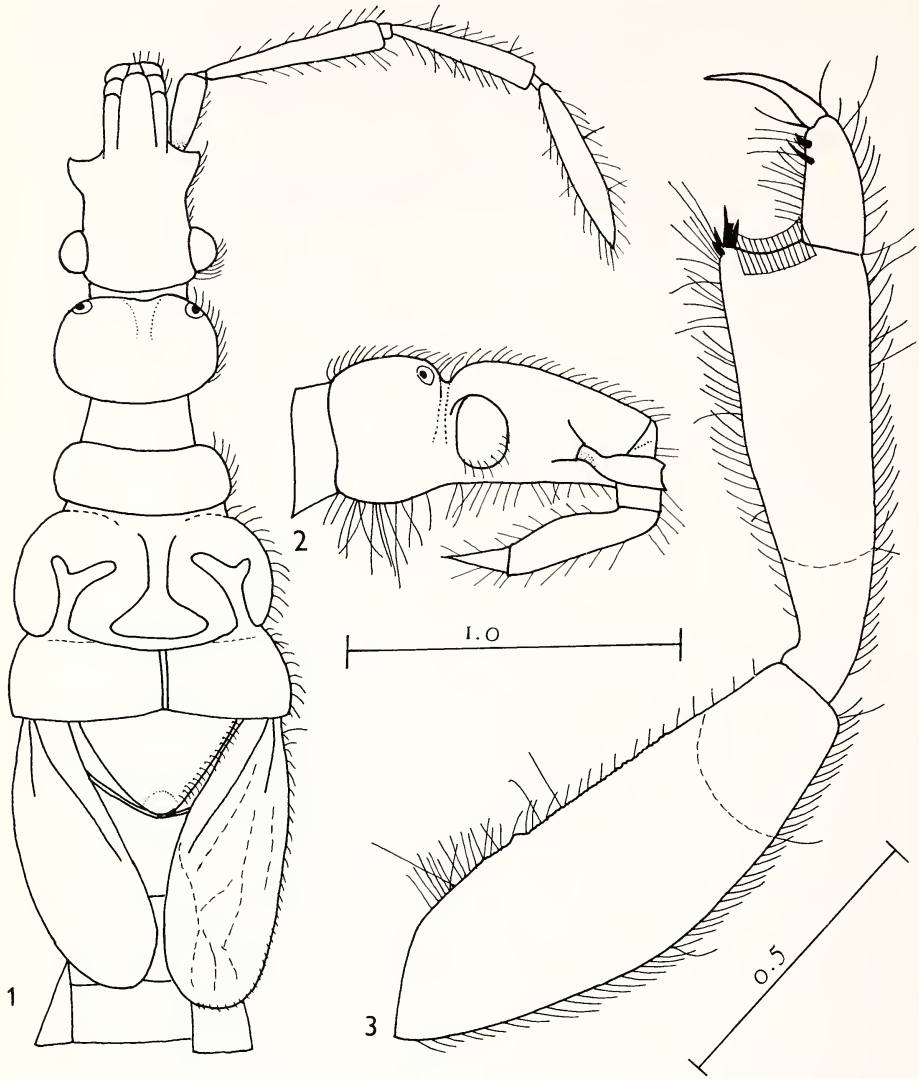
Dedication. I have the honor to dedicate this paper and to ascribe the name of the new species to my scientific friend Dr. Richard C. Froeschner, hemipterist of the National Museum of Natural History, Washington, D.C., on the occasion of his 70th birthday and in acknowledgment of his great contribution to hemipterology and his frequent help to me.

Oncylocotis froeschneri, new species
Figs. 1–5

Description. Extremely brachypterous male. General facies. Small, slender, gracile, bicolorous (head, forewings, legs), narrow species with rather short and thick antennae, moderately long legs, and mostly short, but not uniform pilosity.

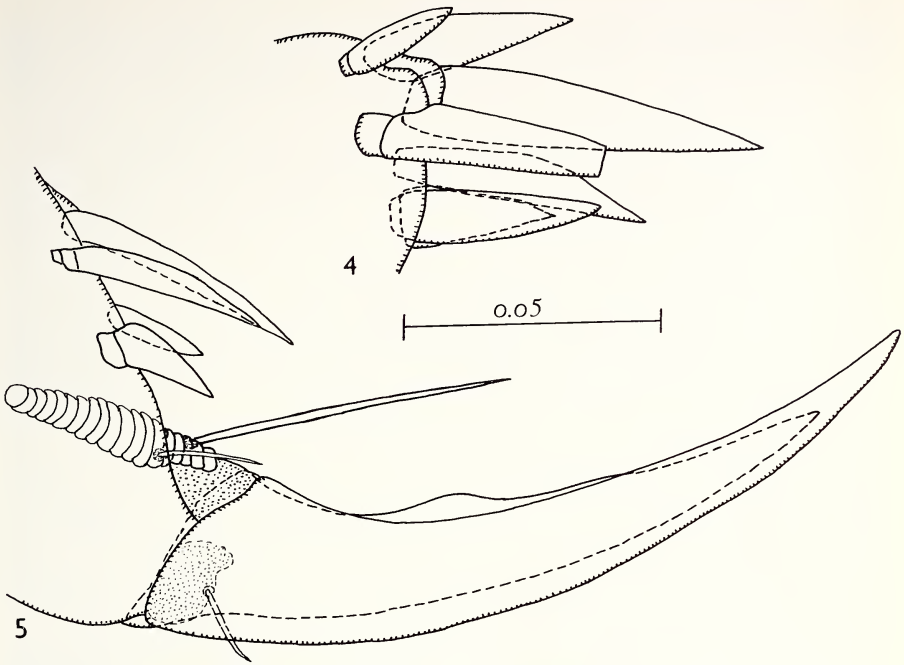
Measurements (all in mm; L = length, W = width). Total length 3.95. Head, anterior lobe: L 0.61, anteocular W 0.26, distance eye–apex of antenniferous tubercle 0.20, distance eye–base of antenniferous tubercle 0.09, L of eye 0.16, interocular W (min.) 0.28, transocular W (max.) 0.46; posterior lobe, L 0.34, W 0.46. Lengths of antennal segments (II–IV inclusive proximal intercalary segments): I 0.15, II 0.51, III 0.50, IV 0.54. Labium, segment III, L (ventral) 0.45, height 0.12; IV L 0.17. Pronotum: collum, med. L 0.22, max. W 0.45; middle lobe, med. L 0.37, max. W 0.74; posterior lobe, med. L 0.19, max. W 0.81. Mesoscutellum, L 0.31. Forewing, L 0.84, max. W 0.31. Fore leg: femur, L 0.87, max. W 0.28; tibia, L 0.74, max. W 0.25; tarsus, L 0.20, max. W 0.11. Middle tibia, L 0.71. Hind tibia, L 1.05. distance apex of head–apex of mesoscutellum 2.08.

Coloration. Bicolorous, rather dull, ground color of body dark brown to blackish brown. Posterior lobe of head contrastingly dull orange, collum and posterior lobe of pronotum lighter (brown with some orange shades) than middle lobe (blackish brown), frenae of mesoscutellum light brown. Antennae brown, segment 4 orange-brown. Proximal ¼ of forewing noncontrastingly but distinctly paler (dark stramineous) than distal part (brownish). Ground color of fore leg dark brown to orange-brown (apex of tibia, tarsus), "knee" (distal ¼ of femur on posterior face, ⅓ on anterior face, proximal ¼ of tibia) contrastingly lighter (dull stramineous). Coloration of middle and hind legs similar, but ground color lighter, pale areas involving also coxae and trochanters as well as extreme bases of femora; pale "knees" occupying the distal ¼ of middle femora and distal $^1/_6$ of hind femora, but hardly recognizable on very pale, stramineous tibiae (also middle and hind tarsi stramineous).



Figs. 1–3. *Oncylocotis froeschneri*, ♂ holotype. 1. Head, thorax, wings and antennae in dorsal view. 2. Head and labium; lateral view. 3. Right fore leg, anterior view; dashed lines indicate the extent of pale "knee." Only marginal hairs illustrated. 1 and 2 drawn to the same scale.

Pilosity of dorsal and lateral sides of head, and of thorax, legs, and wings moderately dense, mostly erect or diagonal, uniformly short, inconspicuous, only that of the posterior lobe of head slightly longer, curved, and adpressed. Hairs on the venter of head longer and semierect below eyes, longer and curved on lateroventral sides of posterior lobe; the ventral side of the latter with a sparse group of long, soft, erect hairs, the longest about 0.5 times as long as posterior lobe is high.



Figs. 4, 5. *Oncylocotis froeschneri*, ♂ holotype. 4. Apicitibial armature of right foreleg, anterior view. 5. Tarsal armature and pretarsus of right foreleg, anterior view. Drawn from cleared slide preparation; setae omitted. Same scale for both illustrations.

Cuticle matt to slightly shiny, only impressions of middle lobe of pronotum markedly polished. Setigerous tubercles absent.

Head as illustrated (Figs. 1, 2). Constriction situated immediately behind eyes. Ratio length of eye: (distance eye–base of antenniferous tubercle) about 0.6. Eyes small, only laterally situated, sparsely and only ventrally pilose, ocular index 3.0; facets normally developed, packed closely together. Posterior lobe transverse, 1.45 times as wide as long, widest in the middle, lateral sides regularly rounded; median marked by proximal, shallow, rather broad concavity, no linear impression present. Ocelli present, small, facing laterad, situated on small, polished, hardly elevated, red pigmented areas.

Antenna (Fig. 1) 1.58 times as long as head without neck, rather thick, segments 2–4 subequal in length, 2 and 3 proximally narrow, markedly thickened distally, 4 fusiform. Pilosity of antennae semierect, sparse, rather short, that of segment 4 shorter than segment diameter.

Labium (Fig. 2) rather thick, 3rd segment 3.6 times as long as high and 0.9 times as long as 2nd antennal segment, its dorsal outline markedly convex (lateral view).

Pronotum (Fig. 1) as illustrated; collum simple, without lateral tubercles, median indistinctly concave; both medial and lateral impressions of middle lobe complete, well developed, the anterolateral arms of Y-shaped impressions abbreviated; posterior lobe strongly reduced, posteromedially shallowly subangularly excised, oth-

erwise posterior margin nearly straight, median with a low, percurrent linear keel; proportions of median lengths of collum:middle lobe:posterior lobe as 7:12:6, of their maximum widths as 7:12:13. Mesoscutellum roundly triangular, its frenae retained.

Forewings elongate oval, 2.7 times as long as wide, the left one reaching the posterior margin of abdominal tergum 2, the right one the middle of tergum 3. Forewings widest in ½ of their length, not overlapping, hardly mutually contacting. Vestiges of venation present, but indistinct and not interpretable; claval fracture retained as a long furrow running up to the level of maximum width of wing, medial furrow proximally distinct. Hindwings reduced to short scales (articulating?) hardly reaching ½ the length of lateral margin of metapleuron.

Fore legs (Fig. 3) moderately thick, femur 3.15 times as long as wide, tibia 3.00 times as long as wide, tarsus 1.87 times as long as wide (based on maximum values from cleared, not deformed slide preparation). Femur without setigerous tubercles, its ventral face covered with numerous, sharply delimited, minute semispherical microtrichia (about as wide as alveoles of setae); hence ventral profile of femur minicrenulate. Shape and pilosity of leg as illustrated. Apicitibial projection short, with 7 spines[1] (Fig. 4), one of them truncate (possibly a natural state, observed also in other *Oncylocotis* species). Apical tibial comb of 32 setae. Tarsal armature and pretarsus as illustrated (Fig. 5). Anterior (inner) claw only slightly longer than posterior (outer) claw, but anterior (sic!) parempodial seta only about 0.25 times as long as the posterior one. Dorsal arolium with a distinct, short aroliar seta (overlooked in previous studies of the genus).

Abdomen without particulars, segment 8 normally developed, flat, not affected by neoteny (*cf.* Štys, 1982). Pygophore small, but protruding and terminating the abdomen, truncately subspherical. Genitalia (hardly diagnostic for species of this genus) not examined.

Etymology. The specific name is derived from the name of R. C. Froeschner.

Holotype. ♂, ZAIRE, Kivu, Uvira, 3.24°S, 29.05°E, i. 1958, N. Leleup; in vestiges of sclerophyllous forest. Right fore leg detached and preserved in a pinned glycerine microvial. Deposited in Musée Royal d'Afrique Centrale, Tervuren.

Discussion. Oncylocotis froeschneri belongs to an aggregate of species characterized by bicolorous legs and forewings and will fit couplet 10 in Villier's (1969) key to Afrotropical species. This couplet contains *O. mirei* (Villiers, 1960) known from the Sudan, Tanzania, and Cameroon, and *O. angolensis* (Villiers, 1959) from Angola and P. R. Congo. Both of these species are macropterous, slightly larger (length 5 mm), and their antennae much thinner; the posterior lobe of the head in *O. angolensis* is more transverse than in *O. froeschneri.* The next most similar (and probably most closely related) taxon is *Oncylocotis basalis curculio* (Karsch, 1893) (*sensu* Štys, 1969; =*Oncylocotis curculio auct.*, e.g. Villiers, 1969), an Afrotropical subspecies of a widely distributed African, Arabian, and Oriental, continuously pterygopolymorphic species. *Oncylocotis froeschneri* differs from *O. basalis curculio* by its much smaller size (3.95

[1] Outlines of some spines almost overlap when examined in slide preparations. This may indicate that the lower number of spines given in detailed descriptions and illustrations of this character in other *Oncylocotis* species (Štys, 1982; Usinger and Wygodzinsky, 1960) is erroneous. The presence of 7 spines seems to be a plesiomorphic and modal character in the family.

× 6–8 mm), much sparser and shorter pubescence of the body (especially on the dorsal and lateral sides of the posterior cephalic lobe), less pilose antennae and legs, distally more widening antennal segments 2 and 3, more extensive pale areas of "knees," and a generally duller and less contrasting coloration. The reduced forewings of *O. froeschneri* differ from those of the most brachypterous morph of *O. basalis curculio* by extending at most to the middle of abdominal tergum 3 instead of reaching the middle of tergum 4, by hardly recognizable rather than distinct veins, by uniformly short rather than alternately short and long semierect pilosity, and by only a small rather than striking contrast between their proximal pale and distal dark parts. No other taxon of this aggregate of Afrotropical species is known to exhibit pterygopolymorphism; most species are macropterous, and only *O. micropterus* Villiers, 1969, from the Ivory Coast is strongly brachypterous, but differs from *O. froeschneri* by much longer forewings (reaching half the length of abdomen), uniformly short pubescence of the head and pronotum, and an extremely small size (2.75 mm).

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